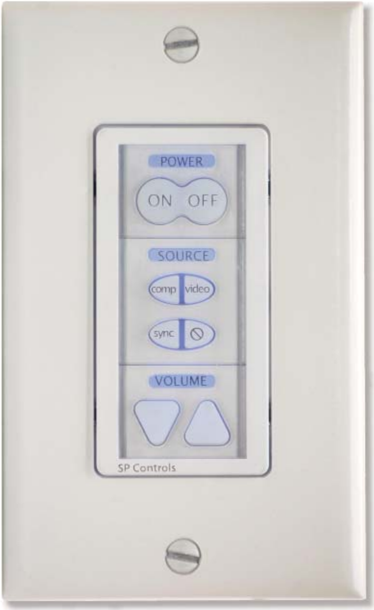
PixiePlus™

Projector Controller for Epson®

Installation Guide


POWER
ON
OFF
SOURCE
comp
video
sync
VOLUME
SP Controls

(Decora™ wall plate not included)

Patent US 7,334,067

ELPSP10

Important Safety Instructions

1) Read these instructions.
2) Keep these instructions.
3) Heed all warnings.
4) Follow all instructions.
5) Do not use this apparatus near water.
6) Clean only with dry cloth.
7) Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9) Do not defeat the safety purpose of the polarized or grounding type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. When the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10) Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11) Only use attachments/accessories specified by the manufacturer.
12) Use only with a cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13) Unplug this apparatus during lightning storms or when unused for long periods of time.
14) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

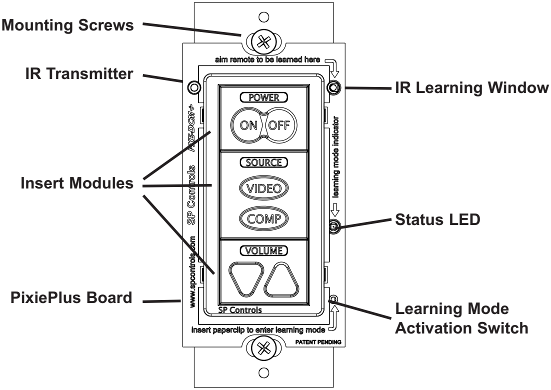
WARNING - To Reduce the Risk of Fire Or Electric Shock, Do Not Expose This Apparatus To Rain Or Moisture.

Apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases, shall be placed on the apparatus.

Electrical Warning

The PXE-DCM+ is a low-voltage device. Never install the PixiePlus in an electrical back box containing high-voltage wiring. This would cause a serious electrical danger and violate United States national electrical codes.

I. Introduction


Mounting Screws
IR Transmitter
Insert Modules
PixiePlus Board
IR Learning Window
Status LED
Learning Mode Activation Switch
aim remote to be learned here
PXE-DCM+
SP Controls
www.spcontrols.com
POWER
ON
OFF
SOURCE
VIDEO
COMP
VOLUME
SP Controls
learning mode indicator
insert paperclip to enter learning mode
PATENT PENDING

Preconfigured for Easy Setup

The PixiePlus (PXE-DCM+) Projector Controller for Epson® (ELPSP10) is a single-gang AV control device configured to provide power, source selection, and volume control of any compatible Epson projector with RS-232. Users who wish to control an Epson projector with the Projector Controller's preconfiguration may disregard the PixiePlus programming instructions.

If it is necessary to reprogram the PixiePlus, the modular button interface and IR device control codes may be easily reconfigured. Modifying the RS-232 commands programmed to each button requires the SP Controls Programming Wand (*PXE-PGM-TOOL*, sold separately).

The PixiePlus may be configured with an Inactivity Shutdown Timer (pg. 14) to protect bulb life, or with a Security Lock (pg. 16) to prevent unauthorized use. One PixiePlus may be used to control multiple projectors in tandem with a 1x2 CAT5 splitter (sold separately).

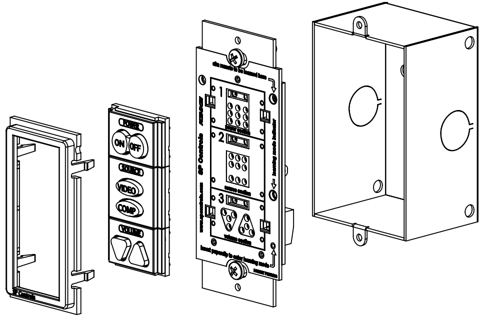
The PixiePlus may be configured with schedule events (security lock, auto power off, etc.) at specific times and date ranges using the PXE-DCM-RTC Real Time Clock Module (included). Configuration of schedule events requires the SP Controls Programming Wand (*PXE-PGM-TOOL*, sold separately). See Programming Wand documentation for schedule configuration instructions.

The PixiePlus is designed for use with a Leviton Decora™ wall plate (not included).

The PixiePlus may be installed in a single-gang back box (not included).

Bezels are available in black (*PXE-BEZEL-BL*) and gray (*PXE-BEZEL-GR*).

II. Installation Overview


POWER
ON
OFF
SOURCE
VIDEO
COMP
VOLUME
1
2
3
Bezel
Inserts
Circuit Board
Single-Gang Wall Box
(not included)

The Projector Controller for Epson ships with:

- 1 PixiePlus Circuit Board
- 6 White Plastic Button Inserts and 7 Rubberized Button Pads
- PXE-DCM-RTC Real Time Clock Module
- PXE-DCM-CAT5-ADAPTER – PixiePlus CAT5 Output Adapter
- PXE-DCM-EMIT-CAT5-232/IR – RJ45-to-DB9/IR Adapter Ceiling Plate
- IR Emitter
- IR Emitter Bud Holder
- 1 6VDC Regulated Power Supply
- IR Emitter Cable Anchors
- 2 Bezels (ivory and white)
- Installation Guide
- PixiePlus ELPSP10 Supplement
- Mounting Screws
- Paper Clip (for IR-learning)

Required and Optional parts and accessories (not included)

- 1 CAT5, CAT5e, or CAT6 Cable (Required)
- 1 RS-232 Serial Cable (male-female straight DB9) (Required)
- 1 Leviton Decora™ wall plate (Required. Match to bezel color.)
- 1 Single-Gang Back Box (Optional. SP Controls recommends using a grounded back box)
- PixiePlus programming tool *(PXE-PGM-TOOL*) for reconfiguration of the PixiePlus RS-232 codes or schedule events (Optional)

III. PixiePlus Installation

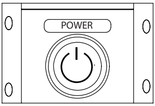
The Projector Controller for Epson is preconfigured to use the Discrete Power, 4-Button Source, and Volume Control button modules. To function with the PixiePlus preconfiguration codes, these button modules **must be used**.

If you wish to reconfigure the PixiePlus with alternate controls, you may replace those button modules as needed with buttons that match the control codes you wish to use. Select the button insert modules that match the design of your remote control. For example, if your remote control has a single toggling power button, select the Toggling Power module.

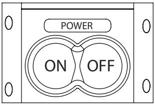
Reprogramming the PixiePlus RS-232 commands requires use of the PixiePlus programming tool (PXE-PGM-TOOL).

1. Assemble Insert Modules

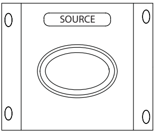
Available Insert Modules



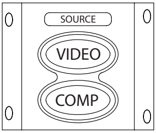
Toggling



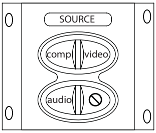
Discrete



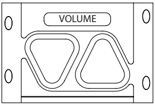
Toggling



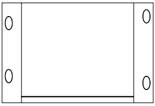
Discrete (2-Button)



Discrete (4-Button)



Control

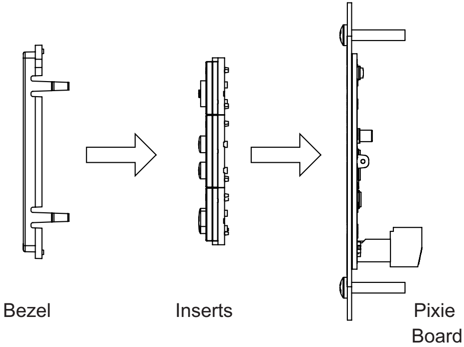


Blank

Note: You must chose one (and only one) insert module of each type. That is, you cannot use two source insert modules and no volume module.

2. Attach Bezel

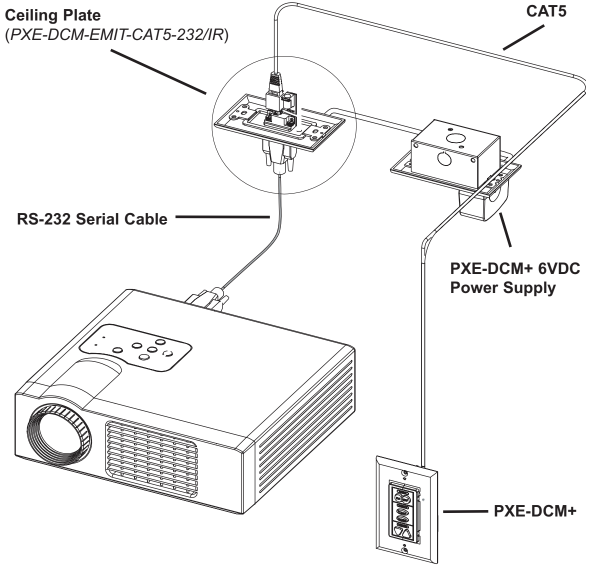
After selecting the appropriate insert modules, place them against the circuit board and secure them in place with the bezel.



Be sure the bezel is placed right-side-up. The SP Controls logo should be right-side-up.

IV. Wiring PixiePlus to Display Device

Installation Overview



The PixiePlus DCM interface connects to the ceiling plate (*PXE-DCM-EMIT-CAT5-232/IR*) with a single CAT5 cable.

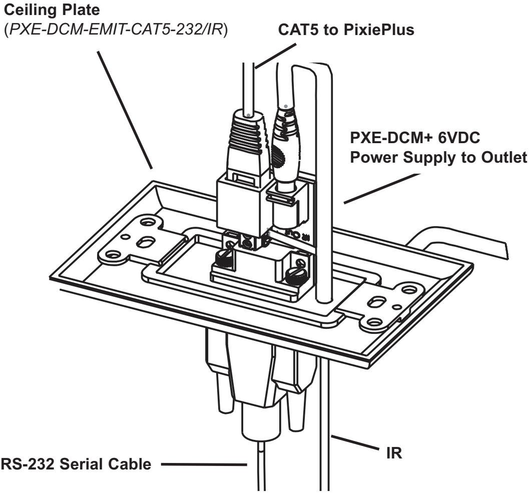
The ceiling plate provides a female DB9 for RS-232 connection to the Epson projector, using a straight-through RS-232 serial cable (not included). An IR emitter (included) connects to the ceiling plate with a captive screw connection. The ceiling plate also includes a connection jack for the wall wart power supply (see page 7).

The single CAT5 cable carries power and control data between the ceiling plate and the PixiePlus DCM.

1. Install the ceiling plate (*PXE-DCM-EMIT-CAT5-232/IR*) near the Epson projector. A standard ceiling-mounted electrical box with AC power must be installed nearby (provided by electrician).

2. Plug the PXE-DCM-CAT5-ADAPTER into the back of the assembled PixiePlus DCM.

3. Connect the *PXE-DCM-CAT5-ADAPTER* to the *PXE-DCM-EMIT-CAT5-232/IR* with a CAT5 cable.



4. For use with the AP-60: connect the IR emitter to the two-position captive screw IR output on the ceiling plate. You may connect the emitter directly, or extend the IR emitter with a two-conductor cable. Pull the IR cable through the face plate to the AP-60 and attach the IR emitter bud to the IR receiver window on the speaker near the microphone nobs. Use the IR Bud Holder to facilitate projector service.

5. Connect the female DB9 on the ceiling plate to the serial control port of the projector with a straight male-to-female RS-232 serial cable (not included).

6. Thread the 6 VDC power supply through the opening in the ceiling plate and plug it into the power supply barrel receptacle.

7. Mount the PixiePlus to a single-gang wall box (not included) or appropriate mounting location. The inner screw holes on the PixiePlus should be used to anchor the unit to the wall box. The outer screw holes will be used to affix a Decora™ wall plate over the face of the PixiePlus.

8. Once all the connections are made, plug in the PixiePlus power supply wall wart to the electrical box.

⚠ The PXE-DCM+ is a low-voltage device. Never install the PixiePlus in an electrical back box containing high-voltage wiring. This would cause a serious electrical danger and violate United States national electrical codes.

V. Reprogram PixiePlus

This section describes how to reprogram the PixiePlus control codes, which will **not be necessary for most installations**. The Projector Controller for Epson is preconfigured with RS-232 codes that control any compatible Epson projector. The default codes are:

Button	**Default Codes**
Power ON	Power On (RS-232)
Power OFF	Power Off (RS-232)
COMP	Computer 1/Computer 2 (toggle) (RS-232)
VIDEO	Video (toggle) (RS-232)
AUDIO	Epson AP-60 Power Toggle (IR)
BLANK	Projector A/V Mute Toggle (RS-232)
VOLUME Up	Volume Up (RS-232)
VOLUME Down	Volume Down (RS-232)

Programming Overview

The PixiePlus controls AV devices by learning and duplicating the IR codes of their remote controls. A single button may be programmed with as many as four codes. Multiple codes may be sent as macros or round robin.

To program the PixiePlus you will set it to learning mode, arm each key for IR learning, and squirt it with the appropriate remote control commands.

Any button may be programmed with any code – it does not have to be the same as the label silk-screened on the button.

RS-232 Programming

RS-232 commands may be reprogrammed on the PixiePlus with the SP Controls Programming Wand (PXE-PGM-TOOL). See Programming Wand documetnation for further instructions.

Toggling Source Module Between 2-Button and 4-Button Mode (optional)

By default, the PixiePlus is configured to work with a four-button source module. To use a one- or two-button source modules, you must disable four-button mode.

To disable four-button mode:

Assemble the PixiePlus, including a one- or two-button source module, as described in *Section IV* above. Press and hold any single source button while inserting a paper clip into the programming aperture. The PixiePlus should beep three times to indicate that four-button mode is now disabled.

The PixiePlus will now be in learning mode. You may program the PixiePlus or, to exit learning mode, remove the paper clip.

While the four-button mode is disabled, both the left and right sides of any one- or two-button module button should illuminate together when the button is pressed. If only one side of a button on the two-button pad illuminates, the unit is still in four-button node.

To re-enable four-button mode:

Assemble the PixiePlus, including a four-button module, as described in *Section III* above. Press and hold any single button in the source selection module while inserting a paper clip into the programming aperture. The PixiePlus should beep three times to indicate that four-button mode is now active.

When four-button mode is enabled, both the left and right sides of any one- or two-button module button should illuminate separately when a source button is pressed, not in unison. If two neighboring buttons on the four-button pad illuminate simultaneously, the unit is NOT in four-button mode.

The PixiePlus will now be in learning mode. You may program the PixiePlus or, to exit learning mode, remove the paper clip.

To learn a remote control:

The PixiePlus may be reprogrammed to reproduce different IR control codes. To control a device through IR, an IR emitter must be wired from the PixiePlus to the device under control (see page 7 for more information).

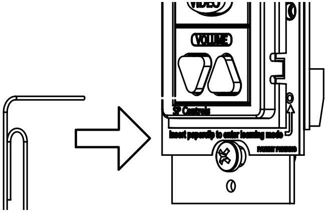
1. Power the PixiePlus: the LED backlights will be illuminated.

2. Enter learning mode: Gently insert a paper clip into the small hole labeled "insert paperclip to enter learning mode." The PixiePlus will remain in learning mode while the paper clip remains in the aperture. Removing the paper clip will return the PixiePlus to normal operation.

⚠ Be gentle with the paper clip to ensure that you do not damage the switch mechanism.

TIP The Status LED will blink red while the PixiePlus is in learning mode.

Be sure that you are not pressing any of the PixiePlus buttons when you insert the paper clip, or you will toggle the PixiePlus Audio Mode on or off (see Section IV, Part 5).



If the room is too bright, the PixiePlus will not enter learning mode. The LED will glow solid red, the buttons will beep continually when pressed, and they will not arm for learning. Darken the room or shield the PixiePlus from the ambient light while learning. Direct sunlight is always too bright.

3. Test Remote and Identify Sweet Spot: Position the remote control a few inches from the IR learning eye (upper right of PixiePlus front).

When you press a key on the remote, the PixiePlus status LED should flicker. As you move the remote closer or farther from the receiver window, or move off axis the red flashes will dim and become intermittent. Find a position that consistently yields clear, regular blinking. This is the "sweet spot."

TIP If you do not see the Status LED flicker rapidly, your remote may need new batteries.

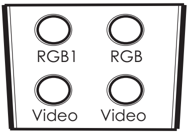
TIP Some remotes have several emitting LEDs, which may not be located in the center of the remote.

4. Round Robin Codes and Macros

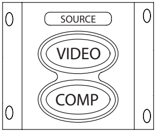
Each PixiePlus button may be programmed with either a single command or multiple commands (as many as four). Multiple commands may be sent round robin or as macros. Round robin buttons send one command per button press. Each time the button is pressed, it sends the next code in the series. Macro buttons send all programmed codes each time the button is pressed.

Example - Round Robin: The SOURCE toggle button may be programmed with four round robin commands to switch between four inputs on the display device. The single SOURCE button is programmed with all four input commands, and configured to Round Robin mode. Each time the SOURCE button is pressed, it sends one of the four commands, in the order learned.

Example - Macro: The COMP input button may be programmed with two commands and configured to macro mode. The COMP button is programmed so that each time it is pressed it sends the RGB1 input command, followed by the auto-sync command.



Remote Control



Source Module

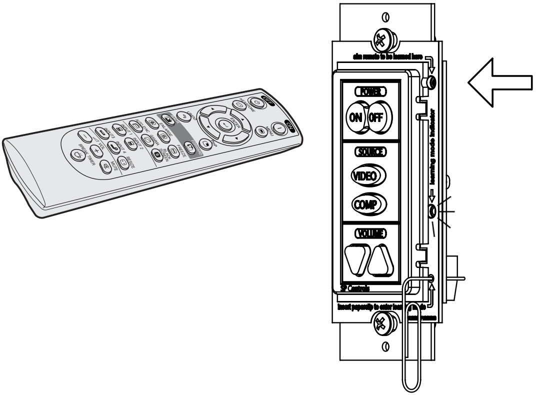
5. To program a button with a single code: While the PixiePlus is in learning mode, press the button to be programmed to arm it. It should beep once and slowly blink.

TIP If the button beeps loudly as soon as you press it, check if the Status LED is solidly lit. If it is, there may be too much light in the room. Reduce the ambient light level or shield the PixiePlus from the light source and try again.

Hold the remote control in the sweet spot you found in step 3. Press and hold the button on the remote for about a second. The status LED should flicker, indicating that the code is being received. The PixiePlus will beep three times quickly to indicate successful learning.

You may press a different button for learning at any time, including buttons that have already been programmed. If you press a button that is already armed for learning a second time, it will be disarmed.

If the PixiePlus learns the code, the button will begin flashing rapidly in Verification Mode. Go to step 7, Verify Learned Keys.


aim remote to be learned here
POWER
ON
OFF
SOURCE
VIDEO
COMP
VOLUME
learning mode indicator
SP Controls
insert paperclip to enter learning mode

6. To program a button with multiple codes for macro or round robin commands: Put the PixiePlus in learning mode. Quickly press the button you wish to program one time for each code you want it to learn. The PixiePlus will beep once for each code it expects to learn.

Example: If you wish to program a SOURCE button with three codes, set the PixiePlus to learning mode and quickly press the SOURCE button three times. The PixiePlus will beep three times to indicate it is ready to learn three codes.

The armed key will indicate it is ready to learn the first code by flashing once, pausing, flashing once, and so on.

Hold the remote control in the sweet spot you found in step 3. Press and hold the button on the remote for about a second. The PixiePlus will beep three times quickly to indicate successful learning.

Now the button will indicate it is ready to learn the second code by flashing twice, pausing, flashing twice, and so on.

Program the button, and it will again beep three times to indicate if the code was successfully learned. Repeat as many times as necessary.

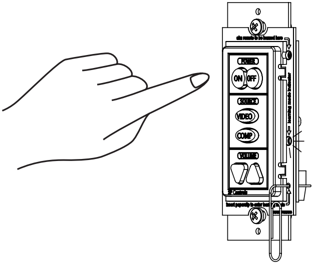
When you have programmed the last code in the series, the PixiePlus will beep quickly three times to indicate the code is successfully learned, and then beep slowly three more times to indicate that the button has been fully programmed.

Arming will eventually time out if no IR code is received. You may select a different key for learning at any time, including keys that are already learned.

If the PixiePlus successfully learns the code the key will begin flashing quickly to indicate it is in Verification Mode.

You cannot add a new code to a key that is already programmed. You must reprogram it entirely. If any code fails, the learning sequence for that key is started over.

By default, any button that has been programmed with multiple codes will send them round robin. To set a button to macro mode, first verify the code, then go to step 8.


aim remote to be learned here
POWER
ON
OFF
SOURCE
VIDEO
COMP
VOLUME
learning mode indicator
IR Controls
insert paperclip to enter learning mode

7. Verify learned keys:

If the PixiePlus is wired to control the display device before programming, you can verify each code was successfully learned immediately after programming it. Each button will remain in verification mode for 20 seconds before timing out.

After learning, each button will blink rapidly to indicate that it is ready for verification. Press the button, and the PixiePlus will emit the code. The display device should respond appropriately.

If the key is set to round robin or macro mode, it will send the multiple codes as configured.

TIP Verification is particularly useful for verifying that repeating codes work properly (e.g., volume ramping).

If the button did not seem to learn correctly, press any other button on the PixiePlus, then press the target button again to rearm it, and repeat the learning procedure.

8. Repeat for each button: While still in learning mode, program and verify each button.

9. Set a button to macro mode: If a button has been programmed with multiple commands, the button may be configured to send all commands with a single button press. By default, buttons are configured to Round Robin mode.

After verification, and while still in learning mode, press and hold the button you wish to set to macro mode for approximately five seconds. The PixiePlus will beep three times to indicate that it has now been set to macro mode.

Each button must be independently set to macro mode.

If a button is reprogrammed the code will automatically default back to round robin mode.

Press-and-hold repeat commands (such as volume ramping) are not available for buttons set to macro mode. A Macro button can send one and only one instance of each code with a single button press. There is a 300 millisecond delay between each code in the series. Some devices may not be able to respond to multiple commands sent at this frequency.

10. To control multiple units of the same device:

One PixiePlus may send identical codes to multiple units of the same device without any additional configuration. For example, you may control two identical projectors with a single PixiePlus by adding an additional IR emitter and wiring it from the PixiePlus to a second projector. A single button press on the PixiePlus will send identical codes to both devices, and the PixiePlus will control them in tandem.

11.To control multiple devices:

Different buttons on a single PixiePlus may be programmed with codes from different remote controls.

Example: You wish to control power and source selection on a projector, and volume on an IR-controllable amplifier.

To do so, wire one IR emitter to the LCD monitor and the second IR emitter to the amplifier. Program the PixiePlus power and source buttons with the codes from the LCD monitor remote control. Program the PixiePlus volume buttons with the volume control codes from the amplifier remote control.

One PixiePlus may learn IR commands from remote controls from different devices. Each button can be configured to send a single command (normal operation) or multiple commands (macro mode) with a single button press.

Example: You wish to configure the PixiePlus to send a power command to a projector and a separate power command to an amplifier with single press of the PixiePlus POWER ON button.

To do so, program the PixiePlus POWER ON button with two commands, Power On from the projector remote, and Power On from the amplifier remote. Then configure the PixiePlus POWER ON button to macro mode.

12. To restore the PixiePlus to its default preconfiguration: Set the device to learning mode by inserting the paper clip. Then press and hold any two buttons while the device is in learning mode. The whole keypad will blink, first slowly, then quickly. Then the PixiePlus will beep four times, indicating that it has been restored to its default configuration.

13. To exit learning mode: Gently remove the paper clip to exit learning mode. Be sure not to hold any buttons while removing the paper clip, or the unit will be set to cloning mode.

14. To test learned codes: Verify that the IR emitter bud has been placed directly over the IR detector on the device the PixiePlus controls. Press the PixiePlus button that you wish to test. A red LED labeled "IR Activity" will blink when the code is being sent, but the emitter bud does not illuminate.

15. Troubleshooting: If you cannot control the device, be sure that the emitter bud is positioned correctly. If some buttons work but others do not, try re-programming the buttons that do not work. Make sure you press the button on the remote for at least one second during learning.

Fluorescent lights can interfere with IR signals. Check if the projector is close to a fluorescent light source. If so, try turning off the lights. If this restores control, cover the IR emitter bud and display device IR receiver window with an IR-opaque shield, such as gaffer's tape.

See *Section X. Troubleshooting* beginning on page 21 for more tips.

VI. Configuring Special Features

1. Inactivity Shutdown Timer

The Inactivity Shutdown Timer will automatically shut the display device down if it is not used for a configurable length of time.

Example: The PixiePlus Inactivity Shutdown Timer is set to three hours. If no button is pressed on the PixiePlus for three hours, the PixiePlus will begin to beep and flash in warning 120 seconds before three hours has elapsed. If no button is pressed, at three hours the PixiePlus will send all codes programmed to the POWER OFF button.

Use of the Inactivity Shutdown Timer requires the DISCRETE POWER ON/POWER OFF keypad module.

Configuration of the Inactivity Shutdown Timer requires the VOLUME UP and VOLUME DOWN keypad module to be inserted. The volume module can be replaced with a blank after the feature is configured.

What the Timer does

- The timer begins counting down immediately after the PixiePlus powers on a display device. Pressing any button except POWER OFF resets the timer and it begins timing down again. Pressing POWER OFF stops the timer. There is no visible behavior when the timer is counting down, until two minutes before it expires.

- If the timer counts down to 120 seconds, the PixiePlus will begin beeping and the POWER OFF button flashes to warn users that it is preparing to shut down.

- If the timer expires, the system shuts itself down exactly as if the user had pressed the POWER OFF key. Any macro programmed for POWER OFF is executed. If the Security Keylock feature is enabled, the PixiePlus will also lock.

Set the Inactivity Shutdown Timer

Press and hold *both* volume keys while gently inserting a paper clip in the programing aperture of the PixiePlus.

⚠ Be gentle with the paper clip to ensure that you do not damage switch mechanism.

The PixiePlus will begin beeping to communicate the current Timer setting (described in the table below).

To change the active setting: Press VOLUME UP or VOLUME DOWN to cycle to the next setting. The PixiePlus will indicate the new setting with a pattern of beeps, and update its Red LED blinking.

When you have reached the desired setting, remove the paper clip to return to normal operation.

Inactivity Shutdown Timer Settings

PIXIEPLUS AUDIO	PIXIEPLUS STATUS LED	TIMER SETTING
One long beep	LED dark	Timer DISABLED (default)
One quick beep	LED blinks once	One-hour shutoff
Two quick beeps	LED blinks twice	Two-hour shutoff
Three quick beeps	LED blinks three times	Three-hour shutoff
Four quick beeps	LED blinks four times	Four-hour shutoff
Five quick beeps	LED blinks five times	Five-hour shutoff
Six quick beeps	LED blinks six times	Six-hour shutoff
Seven quick beeps	LED blinks seven times	Seven-hour shutoff
Eight quick beeps	LED blinks eight times	Eight-hour shutoff

2. Security Keylock

The Security Keylock locks the PixiePlus during disuse to prevent unauthorized use. It disables the keys on the PixiePlus after POWER OFF is pressed, until a Security Keycode is entered on the standard PixiePlus keypad. If the proper code is not entered, the system cannot be turned on or used.

Use of the Security Keylock feature requires the DISCRETE POWER ON and POWER OFF keypad module to be inserted. If your device remote has only a "toggling power" key, you may still use this module if you program both POWER ON and POWER OFF with the same (toggle) code.

How the Security Keylock works

When POWER OFF is pressed, the PixiePlus enters a "locked" state and all keypad buttons go dark.

When the system is locked, any button press other than POWER ON is understood as a Security Keycode entry. A soft chirp is emitted, but the key does NOT illuminate, and no control operation is performed. If the correct code sequence is entered, the system unlocks, the interface illuminates, and normal operation is restored, until the next time POWER OFF is pushed and the system locks again.

If the entered code is not correct, the system emits a long beep and remains locked.

Security Keycodes may one to six button presses long. Codes can use any key on the keypad other than POWER ON.

By default the Security Keylock feature is off, and the default Security Keycode is OFF-OFF-OFF.

Configure the Security Keylock

1. Press and hold both POWER ON and POWER OFF while gently inserting a paper clip into the PixiePlus programming aperture. The PixiePlus will enter "Security Keylock configuration mode" and communicate the current Security Keylock settings as follows:

- The Red Status LED indicates whether the Security Keylock feature is enabled (LED is on) or disabled (LED is off).

- The PixiePlus will show the existing Security Keycode by illuminating each button in the code in sequence, pausing briefly, then repeating the code.

2. To enable or disable the Security Keycode feature, press POWER ON to toggle between enabled/disabled.

3. To change the Security Keycode, enter a new code by pressing a sequence of up to six keys, using any keys in any combination, except POWER ON. After the code is entered, the PixiePlus will immediately show the new Security Keycode.

If more than six keys are entered, the PixiePlus will beep and reset to the previously configured code.

4. After the new Security Keylock has been reconfigured, its new settings must be confirmed. *If you do not follow this sequence to store the new settings, any changes you make will be discarded when you leave Security Keylock configuration mode*.

To confirm the new settings, press POWER ON and hold it down until the PixiePlus beeps three times.

5. After the new code is set and confirmed, carefully remove the paper clip as usual to return to normal operation.

If the Security Keycode is forgotten, you can retrieve it by putting the PixiePlus back in Security Keycode configuration mode – it will then display the currently-configured code.

3. PixiePlus Audio Feedback

By default, the PixiePlus clicks when a button is pressed. To mute, press and hold any button while inserting a paper clip into the programming aperture. The PixiePlus will beep quickly three times to indicate that AUDIO has been set to OFF.

VII. Cloning

Any PixiePlus may quickly and easily copy all the codes from any other PixiePlus. The PixiePlus cannot clone a Pixie.

In cloning there is a donor unit and a recipient unit. The donor unit must already be programmed with the appropriate codes (see Section V). The recipient will copy the donor unit’s codes.

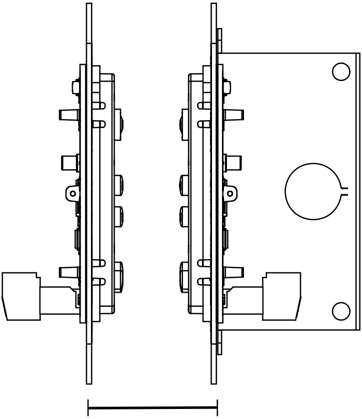
Both units must have the same button insert types, though they may be of different colors.

Both units must be powered. The donor unit should be installed before beginning.

To power the recipient, you may wish to temporarily daisy-chain power from the terminal block of the donor unit with a short length of cable.

Cloning Procedure

1. Set the recipient to cloning mode. If the PixiePlus has never been programmed, you may set it to cloning mode by pressing and holding any button while applying power. If a PixiePlus has previously been programmed, gently insert a paper clip into the IR Learning aperture of the recipient unit. Press and hold any button on the that unit and, while still holding the button, remove the paper clip. The PixiePlus will rapidly chirp while in cloning mode.

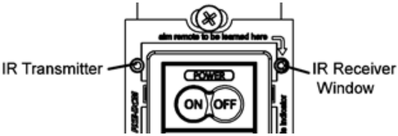


approx. one inch apart
facing each other

It will time out of cloning mode in about 15 seconds, so have both devices on hand. If the PixiePlus times out of cloning mode, repeat this procedure to return it to cloning mode.

2. Position the two units face-to-face, with both units held upright, approximately one inch apart. They should be directly across from each other with the bezels lined up. This will position the IR receiver window of the cloning PixiePlus directly across from the IR transmitter in the donor PixiePlus.

TIP Be sure not to obstruct the IR receiver window or transmitter with your hands.



When the units are correctly lined up, the donor PixiePlus will automatically enter cloning mode. Its Status LED will turn solid red and both units will chirp rapidly.

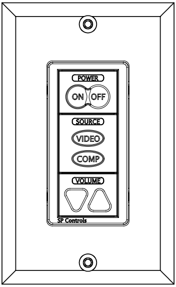
3. Hold the recipient steadily in front of the donor. If the connection is broken (the recipient ceases to chirp), reposition the recipient unit to re-establish communication and the units will continue where they left off. If communication is broken for more than 15 seconds, the recipient will time out of cloning mode and you will need to begin again.

4. When the recipient has completed copying codes from the donor, it will beep 3 times and reset. After the PixiePlus has reset it will be fully operational with the same codes and configuration settings programmed into the donor unit.

After cloning is complete, the donor unit will remain in cloning mode for 15 seconds until it times out. It will then return to normal operation.

VIII. Complete Installation

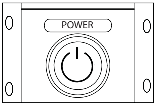
To complete the installation, secure a Leviton Decora™ wall plate (not included) over the face of the PixiePlus. The outer screw holes on the PixiePlus should be used to secure the wall plate.



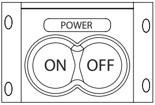
IX. Operation

Power

Power buttons control power on the projector or monitor. The PixiePlus is always on, and its LED backlit buttons remain continually illuminated, unless the Security Keylock is active. By default the PixiePlus is configured with the Epson discrete codes for *Power On* and *Power Off*.



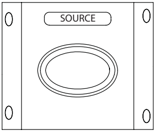
Toggling



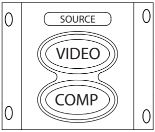
Discrete

Source

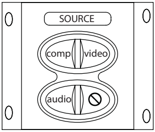
Source button inserts control input selection on the projector or monitor. By default the PixiePlus is configured with toggling source selection commands for use with the 4-Button discrete module. The default Epson codes are *Computer 1* and *Computer 2* (toggle) for the *COMP* button, and for *Video 1* and *Video 2* (toggle) for the *VIDEO* button. The *AUDIO* button turns the Epson AP-60 audio system on and off via IR, and the circle-with-line *MUTE* button toggles the projector mute on and off.



Toggling



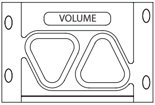
Discrete (2-Button)



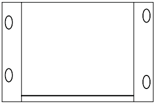
Discrete (4-Button)

Volume

If the PixiePlus is not used to control volume, a blank button insert may be used. By default the PixiePlus is configured with RS-232 control codes for *Volume Up* and *Volume Down*.



Control



Blank

X. Troubleshooting

Programming Problems

Verify that the PixiePlus is in learning mode for programming. The Status LED continually blinks red when the PixiePlus is in learning mode.

The Status LED is solid red and the PixiePlus beeps loudly each time you try to arm a key for learning.

The ambient light is too bright. Shield the PixiePlus from ambient light sources and try to re-program.

If the buttons appear to program properly but do not control the device, verify each code is correctly learned immediately after it has been programmed. The button will blink rapidly to indicate it is in verification mode. Push the button and the IR emitter will emit the corresponding code.

When the PixiePlus is emitting a code in verification mode, you should see the Status LED flicker at a consistent strength and frequency. If the flickering seems uneven, verify that you are holding the remote control in the correct sweet spot - described in Section V, Part 3.

If the Status LED does not flicker rapidly when the remote control is emitting a code, verify that the batteries in your remote control are fresh.

The PixiePlus beeps three times as soon as the paper clip is inserted into the programming aperture.

The PixiePlus beeps three times when it is toggled between two-button and four-button Source Selection modes. This is done by pressing and holding any button while inserting the paper clip. Is one of the buttons being activated while the paper clip is being inserted?

This can happen if a button is stuck. Check all buttons to make sure they are not caught in a depressed position. If not, it is possible that the button contacts on the PixiePlus circuit board are being shorted. Remove the bezel and check for solder or bits of wire that could bridge the button contacts. Then reseat the buttons, reattach the bezel, and try entering programming mode again. If this does not correct the problem, please contact SP Controls Technical Support.

Operation Problems

The PixiePlus does not power the projector/monitor on.

Is the PixiePlus display dark, and does it chirp when any button is pressed? If so, the PixiePlus Security Keylock is active. See page 16 ff. for information on how to configure and/or retrieve the Security Keylock code.

If the Security Keylock is not set, verify that the projector or monitor powers on normally with its own remote control or settop controls. If it does not, it may not be plugged in or may require service.

The PixiePlus does not control the projector/monitor.

Confirm that the IR emitter bud is positioned directly over the receiver on the IR window of the device you are controlling. Some devices are sensitive to accurate placement.

Fluorescent lights can interfere with IR signals. Check if the projector is close to a fluorescent light source. If so, try turning off the lights. If this restores control, cover the IR emitter bud and display device IR receiver window with an IR-opaque shield, such as gaffer's tape. Some opaque tapes do not block IR.

Some commands work but others do not.

Power and Source Selection commands are sent by RS-232 and Volume commands are sent by IR. If some commands but others are not working, check the wiring type that matches the codes that are not working.

Control is intermittent.

If you are using learning a device manufactured by Philips, Magnavox, or Koss, consult the SP Controls PXE-DCM Philips Protocol Application Note for additional programming instructions.

If you are still unable to control your device, please contact SP Controls Technical Support for further assistance.

XI. Technical Specifications

Package Type	Single-Gang Decora™ Mounting
Dimensions	4.130" (h) x 1.745" (w) x .90" (d)
Weight (PCB with bezel and 3 insert modules)	2.5 oz
Power Supply	6VDC, 300mA
Output Type	IR Emitter/RS-232 (preconfigured, reprogramming RS-232 requires *PXE-PGM-TOOL*, sold separately)
Recommended Wire	CAT5, CAT5e, or CAT6; male-female RS-232 straight serial

The PixiePlus is **UL listed** and **CE certified**.

Warranty

SP Controls warrants all PixiePlus products and accessories against defects in materials and workmanship for a period of five years from the date of purchase.

Although SP Controls thoroughly tested and reviewed this documentation, there is no warranty, express or implied, with respect to quality, merchantability, or fitness for a particular purpose. Therefore, the PixiePlus and accessories are provided "as-is" and the purchaser assumes the entire risk as to quality and performance.

There are no obligations or liabilities on the part of the SP Controls Corporation for consequential damages arising out of or in conjunction with the use or performance of these products or other indirect damages with respect to loss of profit, revenue, or cost of removal and/or replacement. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights, and you may also have other rights that vary from state to state. SP Controls' maximum liability shall not exceed the price paid by the user.

All implied warranties, including warranties for merchantability and/or fitness, are limited in duration to five (5) years from the date of purchase. Proof of purchase must be provided with any claim.

FCC Compliance

This equipment generates radio frequency energy and if not installed in accordance with the manufacturer's instructions may cause radio interference.

This equipment complies with part 15, Subpart J of the FCC rules for a Class A computing device. This equipment also complies with the Class A limits for radio noise emission from digital apparatus set out in the Radio Interference Regulation of the Canadian Department of Communications. These above rules are designed to provide reasonable protection against such interference when operating the equipment in a commercial environment. If operation of this equipment in a residential area causes radio frequency interference, the user and not SP Controls, Inc., will be responsible.

Copyright

Pixie™, PixiePlus™, and the SP Controls switch logo are trademarks of SP Controls, Inc. Epson® is a registered trademark of Seiko Epson Corporation. Decora™ is a registered trademark of Leviton Manufacturing Co. All other trademarks mentioned in this manual are the properties of their respective owners. No part of this document may be reproduced or transmitted in any form or by any means, electronic or mechanical, for any purpose, without express written permission of SP Controls, Inc.

© 2010 SP Controls, Inc. All rights reserved.

Changes or modifications made to this equipment not expressly approved by SP Controls, Inc., could void the user's authority to operate the equipment.

SP Controls, Inc. assumes no responsibility for any errors that appear in this document. Information in this document is subject to change without notice.